

SUPPLEMENT ANALYSIS

of the

INEEL Portion of the
April 1995 Programmatic
Spent Nuclear Fuel Management
and Idaho National Engineering Laboratory
Environmental Restoration and Waste Management Programs
Final Environmental Impact Statement



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Acronym List

1995 EIS	Department of Energy Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Final Environmental Impact Statement
AMWTP	Advanced Mixed Waste Treatment Project
AMWTP EIS	Advanced Mixed Waste Treatment Project EIS
ANL-W	Argonne National Laboratory – West
ATR	Advanced Test Reactor
CA	Composite Analysis
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFA	Central Facilities Area
CFR	Code of Federal Regulations
CH-TRU	Contact-handled transuranic waste
CPP	Chemical Processing Plant (ICPP)
CX	Categorical exclusion
D&D	Decontamination and Decommissioning
DOE	Department of Energy
DOE-CH	Department of Energy, Chicago Operations Office
DOE-HQ	Department of Energy, Headquarters
DOE-ID	Department of Energy, Idaho Operations Office
EA	Environmental Assessment
EBR-II	Experimental Breeder Reactor II
EC	Environmental Checklist
EH	Environmental Safety and Health (DOE-HQ Program)
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ER	Environmental Restoration
FEIS	Final Environmental Impact Statement
FFA/CO	Federal Facility Agreement/Consent Order
FFCA	Federal Facilities Compliance Act
FONSI	Finding of no significant impact (DOE environmental assessment)
HLW	High Level Waste
HLW & FD EIS	High-Level Waste and Facilities Disposition EIS
ICDF	INEEL CERCLA Disposal Facility
ICPP	Idaho Chemical Processing Plant (name changed to INTEC)
INEL	Idaho National Engineering Laboratory (name changed to INEEL)
INEEL	Idaho National Engineering and Environmental Laboratory
INFRA	Infrastructure
INTEC	Idaho Nuclear Technology and Engineering Center
IRC	INEEL Research Center
ISFSI	Independent Spent Fuel Storage Installation
LCF	Latent Cancer Fatality
LDR	Land disposal restriction
LLW	Low-level waste
LOFT	Loss Of Fluid Test
MLLW	Mixed low-level waste
MTHM	Metric Tons of Heavy Metal
NEPA	National Environmental Policy Act
NI PEIS	(Nuclear Infrastructure PEIS) Final Programmatic Environmental Impact Statement for Accomplishing Expanded Civilian Nuclear Energy Research and

	Development and Isotope Production Missions in the United States including the
	Role of the Fast Flux Test Facility
NRC	Nuclear Regulatory Commission
NRF	Naval Reactors Facility
PA	Performance Assessment
PCB	Polychlorinated biphenyl
PEIS	Programmatic Environmental Impact Statement
RCRA	Resource Conservation and Recovery Act
RESL	Radiological and Environmental Sciences Laboratory
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RWMC	Radioactive Waste Management Complex
SA	Supplement Analysis
S-B SNF EIS	Treatment and Management of Sodium-Bonded Spent Nuclear Fuel EIS
SBW	Sodium bearing waste
SNF	Spent Nuclear Fuel
TAN	Test Area North
TMI	Three Mile Island
TRA	Test Reactor Area
TRU	Transuranic
TSCA	Toxic Substances Control Act
USGS	United States Geological Survey
WERF	Waste Experimental Reduction Facility
WIPP	Waste Isolation Pilot Plant (DOE facility in New Mexico)
WM	Waste Management
WROC	Waste Reduction Operations Center

1.0 EXECUTIVE SUMMARY

In April 1995, the Department of Energy (DOE) and the Department of the Navy, as a cooperating agency, issued the Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Final Environmental Impact Statement. Volume 1 of this document analyzed alternatives for the management of existing and reasonably foreseeable inventories of the Department's spent nuclear fuel through the year 2035. Volume 2 included a detailed analysis of environmental restoration and waste management activities at the Idaho National Engineering and Environmental Laboratory (INEEL). It also looked at long term impacts of spent fuel management on the INEEL. This analysis supported facility-specific decisions regarding new, continued, or discontinued environmental restoration and waste management operations through the year 2005. The term "1995 EIS" throughout this analysis will refer to only Volume 2 of this document.

DOE NEPA implementing procedures (10 CFR Part 1021.330(d)) require that a Supplement Analysis of a site-wide EIS be completed every five years to determine whether the site-wide EIS remains adequate. While the 1995 EIS was not a true site-wide EIS in that several programs were not included, most notably reactor operations, this method was used to evaluate the adequacy of the 1995 EIS. The decision to perform a Supplement Analysis was supported by the multi-program aspect of the 1995 EIS in conjunction with the spirit of the requirement for periodic review.

This Supplement Analysis used four primary methods for determining whether the 1995 EIS remains adequate. 1) Review of all NEPA documentation prepared in the last five years to determine what operations have already received NEPA analysis and where previously existing analysis had been supplemented. 2) Examination of INEEL operations program by program to determine what changes had taken place and whether they were within the analyzed scope of the 1995 EIS. 3) Review of changes, if any, in each environmental discipline that was analyzed in the 1995 EIS

The results of this analysis are as follows:

Program Change Analysis

The majority of the programs and projects addressed in the 1995 EIS have NEPA documentation. A number of facilities and operations rely on NEPA documentation in addition to the 1995 EIS to provide an adequate representation of the environmental impacts of these actions. The only area for further analysis identified for projects in the 1995 EIS is in the D&D program. As stated in the Record of Decision (ROD) for the 1995 EIS, additional analysis will be required before making decisions for the D&D of these facilities.

The Supplement Analysis did not evaluate the adequacy of NEPA documentation for any of the national programs that are managed through DOE-ID or for the Grand Junction Field Office.

Alternatives Analysis

While the 1995 EIS used a cutoff date of 2005 for the analysis, this review has determined that the 1995 EIS provides a bounding analysis for projects beyond 2005. This issue should be reexamined when the next Supplement Analysis is conducted to ensure the continued validity of

this determination. Any changes in programmatic actions will require additional analysis to determine whether the proposed changes are within or outside of the scope of the 1995 EIS.

Environmental Discipline Change Analysis

The change analysis evaluates DOE decisions announced in the ROD. The results of the environmental discipline change analysis indicate that the following additional analyses needs to be completed: Air Resources analysis impact zone should be extended from 50 km in the 1995 EIS to 200 km for some sectors to address stakeholder concerns, the Big Lost River flood plain determination for the INEEL must be finalized, and the Wildfire Environmental Assessment must be completed. From a regulatory perspective a site-wide composite analysis in accordance with DOE O 435.1 is required to be completed. While additional analysis is being recommended, the 1995 EIS was determined to be adequate to support all decisions made in the ROD.

The following summarizes the findings from the Environmental Discipline Change Analysis.

Adverse Environmental Effects Which Cannot Be Avoided

In general, adverse environmental effects that cannot be avoided are less than projected in the 1995 EIS. However, additional analysis is still required for both cultural resources and ecology to understand these impacts through completion of the Wildland Fire EA.

Aesthetic and Scenic Resources

Existing analysis is adequate because there are no air quality or visibility issues that are changing the character of the landscape.

Air Resources

Summary of Table 8-1.3.2 and Table 8-1.10.2 Onsite Emissions Impacts of Toxic Air Pollutants

	Amount Analyzed ^a (kg per year)	Total INEEL Emissions (kg per year)	Revised Concentrations ($\mu\text{g}/\text{m}^3$)	Percentage of Standard	Standard ^b ($\mu\text{g}/\text{m}^3$)
Beryllium	0.18	0.59	9.2E-04	< 1	$2 \times 10^0 \mu\text{g}/\text{m}^3$
Carbon tetrachloride	268	2,468	2.3E+03	18	$1.3 \times 10^4 \mu\text{g}/\text{m}^3$
Chloroform	11.5	51.68	4.9E+01	< 1	$9.8 \times 10^3 \mu\text{g}/\text{m}^3$
Hydrochloric acid	17500	21,950	1.8E+02	3	$7 \times 10^3 \mu\text{g}/\text{m}^3$

a. This is the amount analyzed in the 1995 EIS for alternative B.

b. Limits are 8-hour time-weighted averages established by either the American Conference of Government Industrial Hygienists or the Occupational Safety and Health Administration; the lower of the two is used.

While actual emissions of these pollutants were shown to have exceeded the analyzed amount in the 1995 EIS, health and safety impacts of this level of emissions were shown to be negligible. None of these emissions exceeded occupational exposure limits. Total INEEL emissions are within regulatory requirements. However, no analysis of air impacts has been completed beyond 50 km, it is recommended that analysis be completed for some sectors to 200 km based on stakeholder requests and National Park Service requirements.

Cultural Resources

Existing analysis is adequate as long as the INEEL Cultural Resources Management Plan is implemented and assuming completion of the Wildland Fire EA.

Cumulative Impacts and Impacts from Connected or Similar Actions

Cumulative Impact analysis is adequate except for flooding which may need to be updated using data based on a final flood plain determination.

Ecology

Existing analysis is adequate assuming completion of the Wildland Fire EA and no additional impacts to ecological resources from habitat loss.

Environmental Justice

Existing analysis is adequate because there has been no significant spatial redistribution of minority and low-income population within the region of influence.

Facility Accidents

The existing analysis is technically adequate. However, using available documents it is difficult to compare results of different analyses. There is a new bounding accident for the INEEL that is presented in the HLW & FD EIS.

Impacts to the maximally exposed individual of bounding accidents on the INEEL.

	1995 EIS	HLW & FD EIS	LCF
Hot Fuel Examination Facility fuel handling accident	5.0 rem		1
Seismically induced failure of degraded bin sets after 2095		83 rem	270
Failure of ammonia tank connections		Greater than ERPG-2 at 3,600 m	

Geology

Existing analysis is adequate to support facility design and safety. The general geology supports DOE flood hazard requirements.

Health and Safety

Health effects of increased air pollutants were shown to be negligible. Health effects from ground water analysis are shown to still be negligible.

Summary of Table 8-1.10.5 "Offsite Emissions Impacts of Toxic Air Pollutants" for constituents that exceeded previously analyzed emission levels.

Air Pollutant ^a	1995 EIS Concentrations (ng/m ³)		Revised Concentrations (ng/m ³)		Standard (ng/m ³) ^b	Impact as percent of standard	
	Site Boundary	Public Roads	Site Boundary	Public Roads		Site Boundary	Public Roads
Beryllium	4.0E-04	1.0E-03	1.3E-03	3.3E-03	4.2E+00	<1	<1
Carbon tetrachloride	2.4E+00	2.2E+00	2.2E+01	2.0E+01	6.7E+01	33	30
Chloroform	8.9E-02	8.3E-02	2.6E-01	2.4E-01	4.3E+01	<1	<1
Hydrochloric acid ^c				1.7E-02 mg/m ³	3.8E-01 ^d mg/m ³		4.5

- a. The four air pollutants shown were the only pollutants that exceeded the estimated air emissions in the 1995 EIS. The other pollutant emissions were within the previously analyzed impacts. A complete list of pollutants and emissions is given in App. 8-1 section 10.
- b. As in the 1995 EIS, these are the Acceptable ambient concentration increments (AAC) listed in State of Idaho Rules for the Control of Air Pollution in Idaho. These standards apply to incremental (not cumulative) impacts of facilities constructed or modified after May 1, 1994.
- c. The ratio was not used for this pollutant. The revised concentrations were obtained from "Operable Unit 7-08 Air Dispersion Modeling and Health Effects from Thermal and Catalytic Oxidation Unit Emissions at the Radioactive Waste Management Complex", EDF-1901, June 25, 2001. Only the portion of the HCl emissions that is greater than in the 1995 EIS are reflected here. Since the locations of the two sources are different, there is not a concern with cumulative effects between the two sources.
- d. Acceptable Ambient Concentration (AAC) for hydrochloric acid (24-hour average) (IDAPA 58.01.01)

Summary of Table 8-1.10.4 Radioactive Dose to the Public

Years	Actual Dose to Maximally Exposed Individual (mrem)	1995 EIS Estimated Dose to Maximally Exposed Individual (mrem) ^e	Actual Maximum Potential Population Dose (person-rem)	1995 EIS Estimated Maximum Potential Population Dose (person-rem) ^f
1995 ^a	0.018	0.63	0.08	2.9
1996 ^b	0.03	0.63	0.2	2.9
1997 ^c	0.03	0.63	0.2	2.9
1998 ^d	0.007	0.63	0.08	2.9

INEEL Services

Existing analysis is adequate based on the reported resource usage summary.

Summary of Table 8-1.11.1 Usage of Resources

1995 EIS Annual Usage	Most Recent Data
Water usage – - INEEL site: 1.78 billion gal - I.F. Facilities: 79 million gal	Water Usage 2000 – INEEL site: 1.2 billion gallons I.F. Facilities: 71 million gallons

<u>Electricity usage -</u> INEEL site: 303,521 megawatt hrs I.F. Facilities: 31,500 megawatt hrs	<u>Electricity usage 2000 -</u> INEEL site: 156,639 megawatt hrs I.F. Facilities: 27,683 megawatt hrs
<u>Fuel consumption -</u> Heating Oil usage 4.25M gal; Diesel Fuel usage 1.8M gal; Propane gas use 863,000 gal; Gasoline usage 557,000 gal; Jet Fuel usage 73,100 gal; Kerosene usage 33,800 gal; Coal usage - 9000 tons (Natural gas and LNG/CNG was not addressed in the 1995 EIS)	<u>Calendar Year 2000 Actuals</u> Heating Oil use 2.3 M gal Diesel Fuel use 652,800 gal Propane usage 63,121 gal Gasoline usage 381,347 gal Jet Fuel usage 0 gal * Kerosene usage 45,006 gal Coal usage 0 tons LNG/CNG usage 4.6Mbtu Natural Gas usage 16,816 Mcf
<u>Wastewater treatment and discharge systems.</u> Average annual wastewater disposal INEEL site: 144 million gal I.F. facilities: 79 million gal	<u>Wastewater disposal 2000 -</u> INEEL site: 1.16 billion gal** I.F. facilities: 70 million gal

* This change is a result of discontinuing helicopter service on the INEEL.

** The table used in the 1995 EIS for the actual waste water disposal data for the INEEL site for 1995 (142 million gallons) appears to be in error. Based on 1996 data, (1.18 billion gallon disposed), an overall decrease in wastewater disposal is evident over the period of analysis. This water disposal is in accordance with regulatory requirements and no adverse environmental impacts have been observed as a result of this disposal.

Irreversible and Irretrievable Commitments of Resources

Existing analysis is adequate because irreversible and irretrievable commitments of resources have in general been less than projected in the 1995 EIS.

Land Use

Existing analysis is adequate because the changes in land use have received appropriate analysis.

Acres of undisturbed land projected to be disturbed: 537 acres (217 hectares)

Approximate acres of undisturbed land actually disturbed including acreage to be disturbed that was identified in a decision document but not yet implemented:

INTEC Percolation Ponds	= 20
ICDF	= 40
SSST	= 20
Expanded Landfill	= 225
CFA Medical and Fire Station	= 7
Gravel Pits Total	= 85
*Silt/Clay Sources	= 290
TRA Sewage Lagoons	= 18
Total	= 705

*An Environmental Assessment for New Silt/Clay Source Development and Use at the INEEL was completed and identified 290 additional acres needed for Silt/Clay extraction.

Mitigation

Existing analysis is adequate. None of the proposed mitigation measures described in the 1995 EIS were required to be implemented.

Noise

Existing analysis is adequate because the number of primary noise sources (cars/buses) has decreased.

Regulatory Requirements

Existing analysis is adequate. Regulatory changes are more restrictive than in 1995

Relationship Between Short Term Use of the Environment and the Maintenance and Enhancement of Long Term Productivity

Existing analysis is adequate because projects implement from the 1995 EIS have had short term environmental impacts that have been offset by long term enhancement of environmental productivity.

Socioeconomics

Existing analysis is adequate because site service and employment levels are at or below the analysis conducted in the 1995 EIS.

Table 8-1.18.2 Projected Employment

	1995 Actuals	2000 (projected in 1995 EIS)	2000 (Actuals based on "INEEL Impacts 2000")
Direct Employment	8,620	8,316	8,155

Traffic and Transportation

Existing analysis is adequate because the total number of shipments to the INEEL is over 5 times less than was analyzed in the 1995 EIS.

Total radioactive shipments estimated in the 1995 EIS (10 years)	17, 145
Total actual radioactive shipments through FY 2000 (5 years)	1,255

Water Resources

Ground Water

The 1995 EIS ground water analyses was adequate to support all decisions made in the ROD. As new information becomes available from completion of the site-wide Composite Analysis in accordance with DOE O 435.1 on impacts to groundwater, DOE-ID will incorporate the ground water analysis into future decisions.

The ground water monitoring results comparing data from the 1995 EIS and maximum ground water monitoring results from 1995 - 1999 is shown in Table 8-1.20.1. The table shows decreased contaminant levels for most contaminants. The contaminants that show increases are for inorganic salts around the Mud Lake area (not attributable to INEEL actions) and for carbon tetrachloride. Carbon tetrachloride is being addressed through the CERCLA program which is the procedural equivalent of NEPA.

The 1995 EIS showed a dose of 0.60 mrem/yr attributable to the LLW disposal facility through the year 2060. It also stated that results of the preliminary risk assessment indicate that contaminants would not reach the INEEL site boundary exceeding Federal primary drinking water standards through 2005. Additional analysis completed since the 1995 EIS (the HLW & FD EIS, WAG 3 RI/FS, and RWMC PA/CA) confirms the adequacy of the 1995 EIS.

Surface Water

DOE-ID will refine the Flood Plain documentation per 10 CFR 1022. The review determined that the flood plain analysis in 1995 was adequate for safe operation of INEEL facilities.

2.0 INTRODUCTION

In April 1995, the Department of Energy (DOE) and the Department of the Navy, as a cooperating agency, issued the Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Final Environmental Impact Statement (1995 EIS). This document analyzed alternatives for the management of existing and reasonably foreseeable inventories of the Department's spent nuclear fuel through the year 2035. It also included a detailed analysis of environmental restoration and waste management activities at the Idaho National Engineering and Environmental Laboratory (INEEL). This analysis supported facility-specific decisions regarding new, continued, or discontinued environmental restoration and waste management operations through the year 2005.

The Record of Decision (ROD) was signed in June 1995 and documented a number of decisions regarding INEEL operations. In addition to the decisions that were made, decisions on a number of projects were deferred.

DOE National Environmental Policy Act (NEPA) implementing procedures require that an evaluation of site-wide EISs be performed by means of a Supplement Analysis (SA) every five years. The SA is required to contain sufficient information for DOE to determine whether 1) an existing EIS should be supplemented, 2) a new EIS should be prepared, or 3) no further NEPA documentation is required. While the 1995 EIS was not a true site-wide EIS in that a number of programs were not included, most notably reactor operations, this method was used to evaluate the adequacy of the 1995 EIS.

The need for a supplement analysis is triggered by 10 CFR Part 1021, which requires a review of a site-wide EIS every five years. The purpose of the SA is to determine if there have been changes in the basis upon which an EIS was prepared. This provides input for an evaluation of the continued adequacy of the EIS in light of those changes (i.e., whether there are substantial

changes in the proposed action, significant new circumstances, or new information relevant to environmental concerns.) This is not to question the previous analysis or decisions based on that analysis, but whether the environmental impact analyses are still adequate in light of programmatic changes. In addition, the information for each of the projects for which decisions were deferred in the ROD needs to be reviewed to determine if decisions can be made or if any additional NEPA analysis needs to be completed.

The product of the SA is a recommendation to the DOE-ID Manager concerning the adequacy of the INEEL portion of the 1995 EIS. The Programmatic Spent Nuclear Fuel portion of the 1995 EIS is not addressed in the SA because there is no requirement to evaluate a Programmatic EIS. However, the INEEL Spent Nuclear Fuel program and projects identified in the 1995 EIS were evaluated.

This SA addresses the following in identifying whether the 1995 EIS is adequate for describing the potential bounding environmental impacts of INEEL operations.

- 1) Provides basis for decisions on outstanding issues from the 1995 EIS ROD.
- 2) Describes the scope of EISs, EAs, and other NEPA analyses completed in the last five years for Environmental Restoration, Waste Management, Spent Nuclear Fuel, and Infrastructure projects undertaken to support these programs.
- 3) Describes a Change Analysis of the 1995 EIS. Document significant changes to each of the major programs and each of the major environmental disciplines. The change analysis includes:
 - Scope of the previous analysis
 - Methodology
 - Changes in assumptions
 - Whether the analytical tools used in the 1995 EIS are still valid
 - Whether the accident scenarios and probabilities are still accurate and bounding
 - How the current environmental monitoring data compares with what was previously used
 - Cumulative Impacts
 - Changes in regulatory requirements
 - A comparison between actions proposed in the 1995 EIS with the actions that were implemented, deferred, or dropped from consideration
 - Changes in public perception and values.
- 4) Describes an analysis of the alternatives considered and a determination of whether those alternatives still envelope the potential scope of DOE actions and resulting environmental impacts.

The change analysis uses Alternative B in the 1995 EIS as the baseline for the analysis. The option chosen in the ROD was a modified alternative B. From the standpoint of determining whether the existing analysis is bounding, alternative B is sufficiently defined in the 1995 EIS to allow a comparison. Comparing the impacts of programmatic changes against all of the projects analyzed in the 1995 EIS would not result in impacts beyond those previously analyzed. This is because the maximum treatment option (alternative D) analyzed the maximum foreseeable projects and impacts. Any analysis needs that are beyond the scope of

alternative B will be compared against alternative D to determine if these impacts would be beyond those previously analyzed or simply beyond the scope of the 1995 EIS.

The Supplement Analysis uses a date of October 1, 2000 as a cut-off date for programmatic and environmental discipline changes as the best available information.

The approval authority for the project deliverables is the DOE-ID Manager. The action for the Manager is to determine from this analysis one of three options:

- 1) A new EIS is needed
- 2) A supplemental EIS is needed
- 3) No additional EIS is needed

As with the 1995 EIS, the Naval Reactors Idaho Branch Office and DOE-CH, Argonne Group – West are both participating in the project.

3.0 1995 ENVIRONMENTAL IMPACT STATEMENT SCOPE

This section discusses the scope of the 1995 EIS as it relates to INEEL's ER&WM and Spent Nuclear Fuel activities and the timeframe for decisions supported by the 1995 EIS. Activities addressed in the 1995 EIS primarily include those that deal with managing INEEL radioactive (high-level, transuranic, low-level, and mixed) wastes, hazardous waste, industrial waste, and spent nuclear fuel handling and storage activities. Specific activities are also identified as being out of scope of the 1995 EIS. The 1995 EIS provided the analysis required under the NEPA for certain projects required to implement these Programs at the INEEL. The following is a summary of the scope that was evaluated. More detailed information is available in Vol. 2 of the 1995 EIS sections 2.1.2 and 2.2.5 – 2.2.11.

3.1 Environmental Restoration and Waste Management Activities

Waste management activities discussed in the 1995 EIS were evaluated at both the site-wide (by waste stream management) and project-specific levels. The evaluation of the INEEL's waste management program addressed site-wide impacts associated with the treatment, storage, and disposal of wastes generated by ongoing remediation, nuclear energy, energy research, and defense programs. Examples of project-specific analysis related to waste management activities at the INEEL include constructing replacement capacity for high-level waste tanks and evaluating the potential environmental consequences of incineration (for example, the Waste Experimental Reduction Facility).

For environmental restoration, potential impacts at the INEEL were addressed only at the site-wide level. For example, the 1995 EIS evaluated the potential site-wide impacts associated with deactivation, decontamination, and decommissioning facilities scheduled for closure or reuse. Project-specific impacts of activities were not specifically quantified at that time, so they were only generally evaluated. Project-specific impacts of these activities at the INEEL were planned to be quantified and evaluated in the future, as appropriate, as part of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) actions, in accordance with the Federal Facility Agreement and Consent Order. In the 1995 EIS, deactivation, decontamination, and decommissioning were organizationally reflected under the Environmental Restoration program.

Environmental restoration and waste management activities could not be separated entirely because environmental restoration is a major waste generator. Waste produced during environmental restoration activities will in part dictate future waste management planning and actions.

Specific Infrastructure activities at the site that support Waste Management and Environmental Restoration activities were included in the 1995 EIS. In addition, there were a small number of projects included that do not directly support the WM or ER programs but were deemed important to include for the purposes of presenting a complete analysis.

3.2 Spent Nuclear Fuel Activities

The 1995 EIS addressed all INEEL activities related to spent nuclear fuel (SNF) handling. The SNF portion was a programmatic analysis (volume 1 of the 1995 EIS) that addressed facilities across the DOE Complex including: Hanford, INEEL, Savannah River Site, Naval Nuclear Propulsion Program, Other Generator/Storage Locations, and the Nevada Test Site and Oak Ridge Reservation capabilities. The 1995 EIS evaluated (a) interim storage and management for SNF at specified locations until ultimate disposition, (b) fuel stabilization as required for environmentally safe storage and protection of human health (for both workers and the public), (c) increased safe storage capacity, replacing facilities that did not meet prevailing standards and provided additional capacity for newly generated SNF, (d) research and development initiatives to support safe storage and safe disposal, and (e) SNF generated by the Naval Nuclear Propulsion Program. The possible need to convert SNF into a form that meets the acceptance criteria of a geologic repository was beyond the scope of the 1995 EIS.

3.3 Timeframe

The Record of Decision (supported by Volume 2 of the 1995 EIS) decided how DOE would manage its spent nuclear fuel and Environmental Restoration and Waste Management activities at the INEEL for the ten-year period from 1995 to 2005.

Volume 2 evaluated impacts for a ten-year timeframe because it was believed too much uncertainty existed to analyze project-specific impacts at the INEEL beyond the year 2005. However, there were some projects evaluated that went beyond 2005 (for example, the Waste Immobilization Facility). This is because actions taken in the ten-year timeframe could determine whether these other projects would be needed. In addition, it was assumed any facility constructed or used during the ten-year timeframe might require deactivation, decontamination, and decommissioning in the future.

The spent nuclear fuel program was analyzed from 1995 – 2035 since that is the date all spent nuclear fuel is to be “road ready” to leave Idaho for the national geologic repository for spent nuclear fuel.

3.4 Activities Outside the 1995 EIS Scope

Various activities at the INEEL fell outside the scope of the 1995 EIS and thus were not addressed. In general, Volume 2 evaluated impacts of operations associated with the ER&WM and Spent Nuclear Fuel Programs (by incorporation of Vol. 1 Appendix D) at the INEEL. It did not evaluate any long-term stewardship activities that may be necessary following completion of projects or closure of facilities. However, some non-ER&WM and non-spent nuclear fuel activities were addressed in appropriate sections when they were relevant to understanding

either the affected environment or activities expected to occur at the INEEL over the following ten years. Such activities include, for example, the generation of waste to be handled by the ER&WM Program and those activities related to road maintenance, utilities, fire protection, emergency preparedness, and security. Potential effects of particular non-ER&WM and non-spent nuclear fuel activities were included, when appropriate, in the analysis of cumulative impacts.

3.5 Projects included in the 1995 EIS

A total of 49 projects were specifically evaluated as a part of the scope of the 1995 EIS. Decisions to proceed or to continue were made for the following 22 projects in the 1995 EIS ROD. Twenty-seven other projects specifically identified in the EIS did not have decisions to proceed specified in the ROD. As of May 1995, they still required additional NEPA analysis or a decision was yet to be made pending further project definition or funding priority. A listing of these 27 projects can be found in section 4.

3.5.1 Actions that could have been implemented as a result of the EIS/ROD. These activities are actions or operations specifically identified to be implemented as a result of the EIS ROD for which no previous NEPA documentation existed. The Environmental Checklist (EC) document number or NEPA document number that was completed for each project is given.

Increased Rack Capacity for Building 666 at the Idaho Chemical Processing Plant	CPP-95-009
Dry Fuel Storage Facility; Fuel receiving, Canning/Characterization and Shipping	CPP-96-009 CPP-97-033 CPP-98-010
Fort St. Vrain Spent Nuclear Fuel Receipt and Storage	DOE/EIS-0203F
Expended Core Facility Dry Cell Project	DOE/EIS-0203F
Tank Farm Heel Removal Project	Not completed
Calcine Transfer Project	Not completed
Waste Experimental Reduction Facility Incineration	INEL-96-014R2
Non-incinerable Mixed Waste Treatment Project	PBF-99-006
Sodium Processing Project	DOE/EIS-0203F
INEL Gravel Pit Expansion	INEL-96-016R1

3.5.2 Continuing Actions Identified in the ROD. This included actions and operations that were ongoing, resumption of previous operations, and actions that had been formerly reviewed or were currently being reviewed by a separate NEPA analysis for which an environmental assessment and finding of no significant impact was issued. Each of these projects was specifically included in the ROD. The document number for each project is given.

Transuranic Storage Area Enclosure and Storage Project	DOE/EA-0692
Waste Characterization Facility	DOE/EA-0906
Auxiliary Reactor Area Decontamination and Decommissioning	DOE/EA-0858
Boiling Waste Reactor Experiment Decontamination and Decommissioning	INEL-91-029ADM
Pit 9 Retrieval	DOE/EA-0854
Organic Contamination in Vadose Zone at the Radioactive Waste Management Complex	See Note 1
Remediation of Organic Ground Water Plume at Test Area North	See Note 2

Note 1 This document can be found at the following URL address:
http://ar.inel.gov/ar/owa/getimage_2?F_PAGE=1&F_DOC=5620&F_REV=00

Note 2 This document can be found at the following URL address:
http://ar.inel.gov/ar/owa/getimage_2?F_PAGE=1&F_DOC=6353&F_REV=00

3.5.3 Continuing Actions Not Identified in the ROD. These actions and operations were identified as ongoing, resumption of previous operations, or actions that had been formerly reviewed or were currently being reviewed by a separate NEPA analysis for which an environmental assessment and finding of no significant impact was issued. These projects were not specifically included in the ROD. The document number for each project is given where additional analysis was completed.

Waste Handling Facility	Cancelled
Health Physics Instrumentation Laboratory	DOE/EA-1034
Radiological and Environmental Sciences Laboratory Replacement	Not Completed
Test Area North Pool Fuel Transfer (included in the scope of the EAs completed for this task are the Test Area North Pool Stabilization Project and the New Dry Storage Project)	DOE/EA-1050 DOE/EA-1217
High-Level Tank Farm Replacement (Upgrade Phase)	Cancelled

4.0 OUTSTANDING DECISIONS FROM THE 1995 EIS ROD

Following issuance of the ROD in May 1995, two categories of activities remained that may require additional analysis. The projects are listed according to the analysis completed along with a reference number for the specific NEPA document. The status of this activity is given using the following definitions.

Cancelled	Project was no longer necessary.
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Not Initiated	Project has not been initiated due to funding or other considerations.
Not Selected	This was a part of one of the alternatives in the 1995 EIS that was not included in the Record of Decision.

4.1 Actions identified in the EIS ROD that required further review

These projects are actions identified to be addressed in accordance with the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) process. DOE O 451.1B states that NEPA principles will be incorporated into CERCLA actions to the extent practicable. At the INEEL, Environmental Restoration projects complete CERCLA analysis for specific projects. The NEPA process is then used to ensure that NEPA principles are fully incorporated into the analysis. Decontamination and Decommissioning projects no longer fall under the CERCLA process.

Engineering Test Reactor Decontamination and Decommissioning	Not Initiated
Materials Test Reactor Decontamination and Decommissioning	Not Initiated
Fuels Processing Complex (CPP-601) Decontamination and Decommissioning	Not Initiated
Fuel Receipt and Storage Facility (CPP-603) Decontamination and Decommissioning	EA in preparation
Headend Processing Plant (CPP-640) Decontamination and Decommissioning	Not Initiated
Waste Calcine Facility (CPP-633) Decontamination and Decommissioning	DOE/EA-1149
Central Liquid Waste Processing Facility Decontamination and Decommissioning	DOE-CH CX April 1997

4.2 Actions identified in the EIS ROD for which decisions were deferred

These projects are actions that may have needed separate additional NEPA review, actions needing additional description or refinement of definition or scope, actions for which funding and timing were unresolved, or for which the next course of action was uncertain or made unclear by language in the ROD. Projects identified as part of one of the alternatives not selected in the ROD are included in this list for the purpose of completeness. As above, the document numbers indicate where additional analysis has been completed for these projects.

Electrometallurgical Process Demonstration	DOE/EA-1148
Experimental Breeder Reactor-II Blanket Treatment Project	DOE/EIS-0306
Additional Increased Rack Capacity for Building 666	Cancelled
Waste Immobilization Facility	DOE/EIS-0287D

Radioactive Scrap/Waste Facility (ANL-W)	DOE/EA-1148 DOE/EIS-0306
Private sector Alpha-Contaminated Mixed Low-Level Waste Treatment	DOE/EIS-0290
Radioactive Waste Management Complex Modifications to Support Private Sector Treatment of Alpha-Contaminated Mixed Low-Level Waste	Cancelled
Idaho Waste Processing Facility	Cancelled
Mixed/Low-Level Waste Disposal facility	Cancelled
Plasma Hearth Process Project	Cancelled
Remote Mixed Waste Treatment Facility	Not Initiated
INEL Industrial/Commercial Landfill Expansion	INEL-98-019
Central Facilities Area Clean Laundry and Respirator Facility	CFA-93-006 CFA-93-017
Greater-than-class C dedicated storage	PBF-95-007
Spent Fuel Processing	Not selected
High-Level Tank Farm New Tanks	Not selected DOE/EIS-0287
New Calcine Storage	Not selected
Shipping/Transfer Station	Not selected
Mixed/Low-Level Waste Treatment Facility (this project was included in the AMWTP)	Not selected DOE/EIS-0290
Hazardous Waste Treatment, Storage, and Disposal Facilities	Not selected

4.3 Outstanding Actions

As a result of the above discussion, the following projects have been identified as those that still require either a decision or additional NEPA analysis. These are projects considered to still be viable from a programmatic standpoint and planning documentation identifies these as being necessary for long-term operations.

Engineering Test Reactor Decontamination and Decommissioning

Materials Test Reactor Decontamination and Decommissioning

Fuels Processing Complex (CPP-601) Decontamination and Decommissioning

Fuel Receipt and Storage Facility (CPP-603) Decontamination and Decommissioning

Headend Processing Plant (CPP-640) Decontamination and Decommissioning

Remote Mixed Waste Treatment Facility

Radiological and Environmental Sciences Laboratory Replacement

5.0 NEPA REVIEWS AFFECTING THE INEEL

In order to understand the scope of operations that have been analyzed in NEPA documentation, the SA team reviewed a total of 61 EISs and EAs from the INEEL and from around the DOE Complex. A list of the INEEL related documents reviewed is given in Appendix 5-1. A summary was prepared for every document referencing INEEL operations. The summaries show the scope of each analysis, the portions of the INEEL operations analyzed, and the decisions made concerning that analysis. These are provided in Appendix 5-2. Appendix 5-3 shows the NEPA documents reviewed but were found to not address INEEL operations.

The primary source for documents on these lists (Appendix 5-1 and Appendix 5-3) was the EH web site (<http://tis.eh.doe.gov/nepa>). (note: this web site has been reduced since 9/11/01 for security reasons.) Documents are included that were completed from 1994 to the present. This was to ensure all documents that may have not been included in the 1995 EIS were addressed. The EH web site search engine was used to find all documents that reference INEEL operations. In addition, other NEPA analyses, which in-turn were referenced in these EISs, were reviewed to determine whether they analyzed or considered INEEL operations or INEEL as a location for proposed or alternative actions.

The summary statements are given for reference purposes to facilitate ongoing NEPA review. Any evaluation of the adequacy of existing NEPA analysis for specific projects should rely on the specific documents themselves and not on this summary information.

The results of this analysis of all INEEL related NEPA documents are reflected in Appendix 5-4 where the status of existing NEPA documentation is organized by INEEL program.

6.0 PROGRAM CHANGE ANALYSIS

6.1 Introduction to the Program Change Analysis

One of the major sections of the Supplement Analysis is the change analysis for the different programs addressed by the 1995 EIS. The change analysis is a disciplined approach to determining what has changed significantly over the last five years in each of the programs. These changes were then evaluated to determine whether they have resulted in, or are expected to result in, potential environmental impacts different from those reported in the 1995 EIS.

6.2 Methodology

The change analysis process considered four important pieces of information. First was a review of what portion of the program was covered by the 1995 EIS. Second was a review of

the current status of the program. Third was a description of the major changes in the program. And fourth was an evaluation of whether the environmental impacts of those changes have been or are expected to be significant. Environmental impacts were evaluated on a qualitative basis for each discipline (i.e. air, water, land use, etc.) because the need to look at context and intensity varies significantly with the setting of the implemented and proposed actions.

The change analysis was organized in a way to show the entire scope of each program and whether it was included in the 1995 EIS. First, each project that was analyzed in the 1995 EIS was addressed. Second, the balance of the program included in the 1995 EIS was analyzed. Third, current projects or program elements that were not previously addressed, if any, were analyzed. Fourth, any major projects that are forecast for the next five years were identified.

This approach was used to ensure the overall program description was robust enough to identify all the potential environmental impacts from any project within the program. The specific program change analysis documents are located in Appendix 6-1. Appendix 6-2 provides the methodology used to perform this evaluation.

6.3 Programs Analyzed

All programs analyzed in the 1995 EIS were included in this supplement analysis, with the exception of the High Level Waste program. Subsequent to the publication of the 1995 EIS, numerous substantive changes have been proposed in the HLW program, and those changes are analyzed in the HLW & FD EIS. However, each HLW project was addressed and the HLW program was considered in this SA from a cumulative impacts standpoint in conjunction with the balance of the INEEL in the Environmental Disciplines section.

Of the programs/projects evaluated in the 1995 EIS, the Infrastructure program included everything not included in ER, HLW, SNF, and WM programs. For consistency in analysis, this same approach was used in this SA.

6.4 Interaction Between the Program Change Analysis and the Environmental Discipline Change Analysis

While reviewing the program change analysis, it became apparent that a tool would need to be developed to allow a cross comparison between the programmatic changes that were identified and the environmental disciplines. Without this cross comparison, it may have been possible to miss cumulative impacts between programs and environmental disciplines. In addition, this allowed the different subject matter experts to compare their analysis with that of the program representatives to ensure that a complete picture is given of the state of the program and of each environmental discipline. The results are given in Appendix 6-3. It must be emphasized that this represents impacts of changes from what was previously analyzed and not a summary of the environmental impacts of each project or action.

The potential environmental impacts of the program changes were developed as part of three group sessions with the program representatives, the NEPA Compliance Officer, and legal counsel. The table represents the combined professional judgment of the individuals. The assessments are qualitative rather than quantitative.

6.5 Results of the Program Change Analysis

The results of the program change analysis were compared against the information in Appendix 5-4. Appendix 5-4 is a summary of the NEPA analysis that has been completed and organized by INEEL program to allow for a comparison of what has been analyzed vs. the scope of the current program.

The program change analysis documents are provided in Appendix 6-1. This shows each major activity of the respective program and the change in environmental impacts for each. A summary of these results is given below for the current state of each INEEL program. For consistency between documents, the project numbers that are used here and in Appendix 6-1 are the same project numbers that were used in the 1995 EIS.

6.5.1 Decontamination and Decommissioning (D&D)

6.5.1.1 Projects Analyzed in the 1995 EIS

There were nine Decontamination and Decommissioning (D&D) projects analyzed in the 1995 EIS: two ongoing projects and seven new projects. (The new projects were shown in the 1995 EIS as being Environmental Restoration projects. They are reported here for programmatic consistency.)

Ongoing Projects: The scope of the ARA-II project was to decontaminate and decommission the radiologically contaminated buildings, structures, utilities, and other miscellaneous items at ARA-II. This project had been previously evaluated in an EA and approved with a finding of No Significant Impact (Sept. 1993).

The scope of the BORAX-V project was to decontaminate and decommission the remaining BORAX-V facility by one of two alternatives: dismantlement or entombment. While fieldwork on this facility had not yet commenced when the 1995 EIS was prepared, it was scheduled to be initiated in June 1995 subject to the decisions of the 1995 EIS ROD.

Both of these projects have been completed.

C-2.5 Auxiliary Reactor Experiment (ARA-II) D&D	Completed
C-2.6 Boiling Water Reactor Experiment (BORAX-V) D&D	Completed

Planned Projects: Of the seven planned projects analyzed under the 1995 EIS, all were actions identified to be addressed in accordance with the CERCLA process (note: these projects no longer fall under the CERCLA process). Of these, additional analysis was completed on five of the seven projects using the normal NEPA process.

Two of the projects have been completed, three are currently planned, and two are unscheduled due to funding issues.

C-4.2.1 Central Liquid Waste Processing Facility D&D	Completed
C-4.2.2 Engineering Test Reactor (TRA-642) D&D	Unscheduled
C-4.2.3 Materials Test Reactor (TRA-603) D&D	Unscheduled
C-4.2.4 Fuel Processing Complex (CPP-601) D&D	Not initiated
C-4.2.5 Fuel Receipt and Storage Facility (CPP-603) D&D	Not initiated
C-4.2.6 Headend Processing Plant (CPP-640) D&D	Not initiated

C-4.2.7 Waste Calcine Facility (CPP-633) D&D

Completed

6.5.1.2 Balance of the Program in the 1995 EIS

The 1995 EIS contains a general description of the D&D program. While there have been administrative changes, the program has not changed appreciably.

6.5.1.3 Other parts of the program not analyzed in the 1995 EIS

The D&D program was organizationally moved from the Environmental Restoration program and merged with the Infrastructure Deactivation program. This allows for a more integrated approach toward cleaning up and disposing of older facilities that no longer have a useful life.

The 1995 EIS did not address ground water impacts of D & D decisions because precise information was not available. The important aspects of these decisions are the cumulative impacts from the decision when combined with other current or planned actions that involve ground water impacts. Additional analysis may be required for future EIS level D & D decisions. D & D decisions made since the 1995 EIS and which left radioactive source term in the ground received additional NEPA analysis.

6.5.1.4 Planned major projects

The D&D program has a schedule for disposition of facilities through 2045. Each of these projects will be prioritized and undertaken based on risk and funding availability.

6.5.2 Environmental Restoration (ER)

6.5.2.1 Projects Analyzed in the 1995 EIS

There were three ongoing projects evaluated under the Environmental Restoration program. Of these, two were implemented as planned and are still ongoing. The third is ongoing but project definition is being combined with other cleanup activities. (The 1995 EIS showed seven new D & D projects assigned to Environmental Restoration. These are reported in this document under the D & D program.)

Remediation of Groundwater Contamination. The objective of the "Remediation of Groundwater Contamination Project" was to reduce contamination in the vicinity of an injection well that is located in the Test Area North Technical Support Facility. This project was planned to reduce the concentrations of trichloroethylene, tetrachloroethylene, dichloroethylene, lead, strontium-90, and other contaminants in the groundwater surrounding the TSF-05 injection well at the Technical Support Facility. A variation of the project described above has been implemented via an amendment to the CERCLA ROD.

Pit 9 Retrieval. This Pit 9 Interim Action was to have excavated and treated wastes contaminated with radioactive and hazardous substances disposed of at Pit 9 of the Subsurface Disposal Area of the RWMC. This project was expected to be operable as of August 1996. The impacts of implementing and managing the work from this project were analyzed based on the known scope in 1995.

The current scope of this activity has changed from the scope discussed in the 1995 EIS. The project described in the previous EIS is more accurately referred to today as CERCLA Operable

Unit 7-10. At this time it is not possible to forecast which wastes will be retrieved and which wastes will remain. Additional NEPA documentation could be required depending upon the results of discussions with the regulators and any new agreements on scope of work. The schedule for specific actions required by the Pit 9 CERCLA ROD is also under discussion.

Vadose Zone Remediation. The proposed general objective of the "Remediation of Organic Contamination of the Vadose Zone Project" is to prevent migration of volatile organic compounds (from the vadose zone beneath the subsurface disposal area of the RWMC) to the Snake River Plain Aquifer in concentrations exceeding established risk levels and/or Federal and State maximum contaminant levels.

The proposed general objective of the remediation has not changed from its description in the previous EIS, but it is now more accurately referred to as CERCLA OU 7-08.

C-2.2 Remediation of Groundwater Contamination	Ongoing
C-2.3 Pit 9 Retrieval	Ongoing
C-2.4 Vadose Zone Remediation	Ongoing

6.5.2.2 Balance of the Program in the 1995 EIS

CERCLA is a well-defined process for addressing environmental cleanup. Section 2.2.6.1 of 1995 EIS lays out the basic process for performing remedial actions under CERCLA. Four hundred and fifty nine (459) individual release sites were identified in Table A.2 of the Federal Facility Agreement/Consent Order. To provide for more efficient management of the remediation of these release sites, they were organized into 10 "Waste Area Groups" (WAGs), based on similarities in contaminant and/or media, and by geographic proximity.

DOE, in partnership with the State of Idaho and the EPA Region X, has identified remedial actions and is currently implementing them on areas at the INEEL site where hazardous substances have been or are suspected of having been released to the environment.

As of the cut-off date (Oct. 1, 2000) of this Supplement Analysis, a total of 593 suspected release sites have been identified at the INEEL site for investigation. Four hundred and twenty two (422) of the suspected release sites have either been remediated in accordance with a CERCLA ROD, designated as requiring no action, or as requiring no further action but with institutional controls established for the sites.

A complete description of the ER program is available in Appendix 6-1, Section 2.2, "Environmental Restoration Program Description."

6.5.2.3 Other Parts Of The Program Not Analyzed In The 1995 EIS

These program elements have evolved since the 1995 EIS and were not visualized. Similar projects such as the Low Level Mixed Waste Disposal Facility were analyzed in the 1995 EIS. Required analysis has been completed for each of these projects.

The INEEL CERCLA Disposal Facility (ICDF) is a low-level, hazardous, TSCA, and mixed waste disposal facility (landfill cell[s] and evaporation pond) with an authorized capacity of approximately 390,000 m³ (510,000 yd³). CERCLA-generated wastes within the INTEC facility will be removed and disposed in the ICDF. The evaporation pond will provide treatment/disposal capability for CERCLA-generated aqueous wastes.

6.5.2.4 Planned Major Projects

There are no planned major projects in the ER program that are not analyzed.

6.5.3 High-Level Waste

6.5.3.1 Projects Analyzed in the 1995 EIS

A total of seven HLW projects were analyzed in the 1995 EIS. Of these, three projects have been completed as analyzed. The remaining four projects were not completed and are being reevaluated as a part of the HLW & FD EIS.

C-2.7 High-Level Tank Farm Replacement - Upgrade Phase	Completed
C-4.3.1 Tank Farm Heel Removal Project	Not initiated
C-4.3.2 Waste Immobilization Facility	Not initiated
C-4.3.3 High-Level Tank Farm New Tanks	Not initiated
C-4.3.4 New Calcine Storage	Not initiated
C-4.3.5 Radioactive Scrap/Waste Facility	Completed
C-4.10.1 Calcine Transfer Project (Bin Set #1)	Not initiated

6.5.3.2 Balance of the Program in the 1995 EIS

Because significant changes to the HLW program are being analyzed in the INEEL HLW & FD EIS, this SA does not address this program element.

6.5.3.3 Other parts of the program not analyzed in the 1995 EIS

Significant changes to the HLW program are being analyzed in the INEEL HLW & FD EIS. This SA has determined that the analysis of the HLW program in 1995 was satisfactory to support the ROD.

6.5.3.4 Planned major projects

Because significant changes to the HLW program are being analyzed in the INEEL HLW & FD EIS, this SA does not address this program element.

6.5.3.5 Waste Treatment

Since 1995, the HLW program has calcined 272,500 gallons of high-level waste and 313,500 gallons of sodium-bearing waste. This took place under three treatment campaigns: one in 1997, one in 1999, and one in 2000.

6.5.4 Infrastructure

6.5.4.1 Projects Analyzed in the 1995 EIS

There were five projects analyzed as a part of the Infrastructure Program. Two of the five are ongoing. The other three projects were considered to be new.

Ongoing Projects - The HPIL project will provide a technologically up-to-date facility that safely accommodates the programmatic and operational needs of the health physics program at the INEEL. The Radiological and Environmental Sciences Laboratory (RESL) replacement project will provide updated analytical and support capabilities for the environmental, oversight, and standardization programs of DOE, the United States Geological Survey, and the INEEL.

Planned Projects – The remaining three projects analyzed in the 1995 EIS were listed in the ROD as planned. These projects are the Industrial/Commercial Landfill Expansion, the Gravel Pit Expansions, and the Central Facilities Area Clean Laundry and Respirator Facility.

C-2.11 Health Physics Instrument Laboratory	Ongoing
C-2.12 Radiological and Environmental Sciences Laboratory Replacement	Not initiated
C-4.9.1 Industrial/Commercial Landfill Expansion	Ongoing
C-4.9.2 Gravel Pit Expansions	Ongoing
C-4.9.3 Central Facilities Area Clean Laundry and Respirator Facility	Not Initiated

6.5.4.2 Balance of the Program in the 1995 EIS

There were three areas analyzed under the Infrastructure Program in the 1995 EIS balance-of-the-program category. Each of these areas is ongoing and consists of General Purpose Capital Equipment, environmental and Q.A. programs, and buildings and facilities.

The combined effects of these three areas show little or no change overall as compared to the effects analyzed under the scope of the 1995 EIS.

6.5.4.3 Other parts of the program not analyzed in the 1995 EIS

The parts of the program not analyzed in the 1995 EIS are outside the scope of the original EIS and are not addressed in this document.

6.5.4.4 Newly Planned Major Projects

There are a number of planned infrastructure upgrades that enhance existing capabilities including a proposed Subsurface Geoscience Laboratory.

6.5.5 Spent Nuclear Fuel (SNF)

6.5.5.1 Projects Analyzed in the 1995 EIS

There were nine projects analyzed under the Spent Nuclear Fuel (SNF) Program in this 1995 EIS project-specific *Projects Analyzed* category: one ongoing project, and eight new projects.

Ongoing Project: The scope of this project (C-2.1 Test Area North Pool Fuel Transfer) concerns the removal of all SNF within the TAN pool in TAN-607. These fuels are divided into two subprojects for: 1) TMI debris, and 2) LOFT and commercial SNF. Each of these fuels was subjected to selective destructive analysis and mounted with epoxy as a fixative agent. In one case, epoxy was used as a securing agent within its storage canister. All epoxied materials have been transferred to the LOFT and commercial SNF subproject.

Project-specific NEPA analysis was performed separately and prior to the development of the scope of this EIS. Thus far, all activities planned and carried out within the scope of this project have been within the bounds of existing NEPA analyses. (DOE/EA-1050 and DOE/EA-1217)

Planned Projects: Of the eight planned projects analyzed under the 1995 EIS: 1) four projects were implemented as a result of the ROD as described in the EIS or under reduced scope; 2) one project was not selected under the ROD, and 3) three were deferred. Of the three deferred projects, one was later implemented under the terms of separate NEPA analysis. The combined effects of these projects are reduced compared to the effects analyzed under the terms of the 1995 EIS.

C-4.1.1 Expended Core Facility Dry Cell Project	Ongoing
C-4.1.2 Increased Rack Capacity for CPP-666	Ongoing
C-4.1.3 Additional Increased Rack Capacity (CPP-666)	Deferred
C-4.1.4 Dry Fuel Storage Facility, Fuel Receiving, Canning/Characterization, and Shipping	Ongoing
C-4.1.5 Fort St. Vrain Spent Nuclear Fuel Receipt and Storage	Ongoing
C-4.1.6 Spent Fuel Processing	Not selected
C-4.1.7 Experimental Breeder Reactor-II Blanket Treatment	Initially Deferred, Ongoing
C-4.1.8 Electrometallurgical Process Demonstration	Deferred

6.5.5.2 Balance of the Program in the 1995 EIS

There were five programmatic elements analyzed under the SNF Program in the 1995 EIS *Balance of the Program* category. Of these five programmatic elements, one has been completed within the scope of the 1995 EIS, and the remaining four are planned to be or are being executed within the scope or reduced scope of the 1995 EIS. The combined effects of these projects are reduced compared to the effects analyzed under the terms of the 1995 EIS.

These programmatic elements are:

- Consolidation of Non aluminum-clad SNF at the INEEL
- Transfer of aluminum-clad SNF located at the INEEL to SRS
- Continued interim storage of naval SNF at the INEEL
- CPP-603 Basins Emptied of SNF
- Consolidation of INEEL SNF storage at the INTEC

6.5.5.3 Other parts of the program not analyzed in the 1995 EIS

There were no projects under the SNF Program in the 1995 EIS in this category.

6.5.5.4 Planned major projects

There were no projects under the SNF Program in the 1995 EIS in this category.

6.5.6 Waste Management (WM)

6.5.6.1 Projects Analyzed in the 1995 EIS

There were 16 projects analyzed under the Waste Management (WM) Program in this 1995 EIS project-specific projects-analyzed category, consisting of three ongoing projects and 13 new projects.

Ongoing Projects: The scope of project C-2.8 Transuranic Storage Area Enclosure and Storage Project, concerns the construction and operation of four elements: 1) a building over the top of transuranic waste in storage with an earthen covered berm, 2) multiple storage buildings, 3) support facilities, and 4) associated utility upgrades. The project completed construction of all elements as originally planned. All elements of the project are operational with the exception of the building over the berm covered transuranic waste. Operations will take place under a separate contract with the Advanced Mixed Waste Treatment Facility (AMWTF) project. A separate EIS provides the analysis of the impacts of the operation of this facility.

Neither the Waste Characterization Facility nor the Waste Handling Facility was completed. The Waste Characterization Facility was included as a part of the work scope of the AMWTF project and the new AMWTF facility was addressed under the project specific NEPA analysis. The Waste Handling Facility was not built and other buildings at ANL-W were modified to accommodate the work scope originally planned for this facility.

Planned Projects: Of the 13 planned projects analyzed under the 1995 EIS, four were implemented as a result of the ROD as described in the EIS or under reduced scope – one of which has been completed and one which has not been initiated; three were not selected under the ROD; and six were deferred. Of the six deferred projects, one has been implemented under the terms of separate NEPA analysis and another is still scheduled for completion under separate NEPA analysis currently being performed.

C-4.4.1 Private Sector Alpha-Contaminated Mixed Low-Level Waste Treatment	Initially Deferred/ Ongoing
C-4.4.2 Radioactive Waste Management Complex Modifications to Support Private Sector Treatment of Alpha-Contaminated Mixed Low-Level Waste	Deferred
C-4.4.3 Idaho Waste Processing Facility	Deferred
C-4.4.4 Shipping/Transfer Station	Not Selected
C-4.5.1 Waste Experimental Reduction Facility Incineration	Completed
C-4.5.3 Mixed Low-Level Waste Treatment Facility	Not Selected
C-4.5.4 Mixed/Low-Level Waste Disposal Facility	Deferred
C-4.6.4 Non-incinerable Mixed Waste Treatment	Ongoing
C-4.6.6 Remote Mixed Waste Treatment Facility	Initially Deferred/ EA being prepared
C-4.6.7 Sodium Processing Project	Ongoing
C-4.7.1 Greater-Than-Class-C Dedicated Storage	Not Initiated
C-4.8.1 Hazardous Waste Treatment, Storage, and Disposal Facilities	Not Selected
C-4.10.2 Plasma Hearth Project	Deferred

6.5.6.2 Balance of the Program in the 1995 EIS

Each of the major waste streams (transuranic, low-level waste, mixed low-level waste, greater-than-class-C low-level waste, special case waste, hazardous waste, and industrial waste) is addressed in this section. Each shows the state of the program for the particular waste stream as described in the 1995 EIS and its current state.

6.5.6.3 Other parts of the program not analyzed in the 1995 EIS

All portions of the WM program were addressed in the 1995 EIS.

6.5.6.4. Planned major projects

There are no planned major projects in the WM program that are not previously analyzed.

6.5.6.5 Waste Disposal

A review of the Waste Disposal Volumes table in Appendix 6-1, shows that the 1995 EIS was conservative regarding waste disposal volumes. The only item of note is that the LLW volumes have been over the projected annual volumes for the last three years. However, even if this trend continues, the result will be disposal of LLW offsite at an earlier time rather than disposal on the INEEL. The rate at which LLW is disposed will not affect the total amount of waste disposed at the RWMC. Environmental impacts of shipment and disposal of LLW offsite were analyzed in the WM Programmatic EIS.

DOE O 435.1, Radioactive Waste Management, was approved in July 1999. One of the significant changes in requirements by this new order is that long-term storage of radioactive waste now requires specific approval. As a result, additional efforts have been made to dispose of wastes that had been in storage facilities. This is reflected by the increased disposal volumes in the last three years.

6.6 Conclusions

6.6.1 Projects Summary

A total of 49 projects were analyzed in the 1995 EIS. Some of these projects received additional NEPA analysis. Of these projects:

- 8 have been completed,
- 17 are ongoing,
- 12 have not yet been initiated or are unscheduled,
- 6 have been deferred,
- 4 were not selected in the ROD for implementation, and
- 2 have been cancelled due to changing program needs.

For those projects that either have not been initiated or have been deferred, the D&D projects are still required, the HLW projects are being addressed under the HLW & FD EIS, the Infrastructure projects are still required, the SNF projects are no longer required, and the WM projects are no longer required. This leaves a list of the following projects that are still viable from a programmatic perspective.

C-4.2.2 Engineering Test Reactor (TRA-642) D&D

C-4.2.3 Materials Test Reactor (TRA-603) D&D
C-4.2.4 Fuel Processing Complex (CPP-601) D&D
C-4.2.5 Fuel Receipt and Storage Facility (CPP-603) D&D
C-4.2.6 Headend Processing Plant (CPP-640) D&D
C-2.12 Radiological and Environmental Sciences Laboratory Replacement
C-4.9.3 Central Facilities Area Clean Laundry and Respirator Facility

This review also indicated that decisions regarding the replacement of the RESL facility and disposition of the CFA Clean Laundry facility could be made pending funding priorities and project definition.

6.6.2 Balance of the Programs

For each of the programs analyzed in the 1995 EIS, the analysis shows no major changes in programmatic direction except for the HLW program. The programmatic changes that are being considered in the HLW program are analyzed in the HLW & FD EIS. Other than this change, all of the programs that were analyzed in the 1995 EIS are being implemented within the scope of the analysis.

6.6.3 Other Parts of the Program Not Analyzed in the 1995 EIS

The 1995 EIS did not address ground water impacts of D & D decisions. The important aspects of these decisions are the cumulative impacts from the decision when combined with other current or planned ground water impacts. Additional analysis will be required for future D & D decisions. D & D decisions made since the 1995 EIS and which left radioactive source term in the ground received additional NEPA analysis.

6.6.4 Planned Major Projects

The D&D program has a schedule for disposition of facilities through 2045. Each of these projects will be prioritized and undertaken based on risk and funding availability. There are a number of planned infrastructure upgrades that enhance existing capabilities including a proposed Subsurface Geoscience Laboratory. These projects will require specific NEPA analysis as each project reaches a decision point. No additional analysis is required at this time.

6.6.5 Program Change Analysis Summary

The majority of the programs and projects addressed in the 1995 EIS have NEPA documentation that addresses current and planned actions. A number of facilities and operations rely on NEPA documentation in addition to the 1995 EIS to provide complete representation of the environmental impacts of these actions. The only area for further analysis identified for projects in the 1995 EIS is in the D&D program. As stated in the ROD for the 1995 EIS, additional analysis will be required before making decisions for the D&D of these facilities.

The Supplement Analysis did not evaluate the adequacy of NEPA documentation for any of the national programs that are managed through DOE-ID or for the Grand Junction Field Office.

In making the determination that additional analysis is required, the baseline (Alternative B) against which this analysis was completed must be considered. Since Alternative D was the maximum impact case, it is important to understand whether the additional analysis was

unanalyzed (not in the 1995 EIS) or not a part of the ROD (a part of one of the other alternatives but not a part of Alternative B.) In this case, the additional analysis required is not included in any of the other alternatives in the 1995 EIS. Hence additional analysis is required.

7.0 ALTERNATIVE SELECTION

7.1 Scope of the 1995 EIS

The 1995 EIS identified four alternatives with respect to the INEEL:

- 1) Alternative A - No Action
- 2) Alternative B - Ten-Year Plan
- 3) Alternative C - Minimum Treatment, Storage, and Disposal
- 4) Alternative D - Maximum Treatment, Storage, and Disposal.

Under the No Action alternative existing environmental restoration and waste management operations, facilities, and projects would continue to be managed. This included continuing existing environmental restoration, waste management, decontamination and decommissioning, research and development, and infrastructure facilities and projects that support the Environmental Restoration and Waste Management Program at the INEEL. Naval spent nuclear fuel shipments were only allowed during a three-year transition period. No new major upgrades would be undertaken.

Under Alternative B, existing environmental restoration and waste management facilities and projects would continue to be managed. Besides existing facilities and projects, projects proposed to be built from 1995 – 2005 would be implemented. Environmental restoration, waste management, and spent nuclear fuel projects required to meet regulatory requirements would be performed. Also, increased decontamination and decommissioning activities would take place. Some spent nuclear fuel and waste management projects from other sites would be directed to the INEEL. Specific projects were analyzed through the life cycle of the project and the SNF program was analyzed through 2035.

Under Alternative C, ongoing INEEL spent nuclear fuel, waste management activities, and materials and waste would be transferred to other locations. Environmental restoration activities would be minimized by emphasizing institutional controls over treatment options.

Under Alternative D, to the extent possible, spent nuclear fuel and waste would be transferred from other DOE facilities to the INEEL site for management. Environmental restoration activities would include the maximum planned decontamination and decommissioning projects and would emphasize residential use as the preferred end land use, which potentially would result in maximum waste generation.

7.2 Changes to Alternatives Analyzed

The period of analysis used for INEEL programs (not including SNF) was from 1995 to 2005. The beginning position for the SA was that the validity of the 1995 EIS for possible impacts beyond the year 2005 cannot be verified without additional analysis for those projects that did not perform a longer term analysis.

As the analysis progressed, it became apparent that the analysis was not time frame sensitive for most projects. The following shows how each program analysis is not tied directly to the

time frame for analysis. It should be noted, that specific projects make assumptions regarding availability of services (i.e. onsite disposal of LLW). This analysis is not intended to detract from the validity of these assumptions but to demonstrate overall programmatic actions and their impacts are independent of the timing element.

Decontamination and Decommissioning – These projects are completed on a case-by-case basis. Impacts from each project are not subject to a time dependency. There are no impacts for extending the time frame for the programmatic analysis beyond 2005.

Environmental Restoration – These projects are aimed at remediating and monitoring past environmental impacts. As a result, environmental impacts are going to be positive in the long-term. Hence, the existing analysis is bounding from a time perspective.

High-Level Waste – This program is currently considering changes to the programmatic activities through the HLW & FD EIS. The time frame for this analysis is through 2095.

Infrastructure – The impacts from existing Infrastructure are fairly constant over time. Any major changes in the program will require additional analysis. Current proposed actions are consistent with those already analyzed.

Spent Nuclear Fuel – The Spent Nuclear Fuel program has been analyzed through 2035.

Waste Management – The current foreseeable future for the waste management program does not include any major changes from current analyzed projects. Any changes would require additional analysis.

While the 1995 EIS used a cutoff date of 2005 for the analysis, this review has determined that the 1995 EIS provides a bounding analysis for most projects beyond 2005. This issue should be reexamined when the next Supplement Analysis is conducted to ensure the continued validity of this determination. Any changes in programmatic actions will require additional analysis to determine whether the proposed changes are within or outside of the scope of the 1995 EIS.

8.0 ENVIRONMENTAL DISCIPLINE CHANGE ANALYSIS

8.1 Introduction to the Environmental Discipline Change Analysis

A major focus of the Supplement Analysis is the change analysis for the different environmental disciplines addressed by the 1995 EIS. The change analysis is a disciplined approach to determining what has changed over the last five years in each of the disciplines. These changes were then evaluated to determine whether the environmental discipline changes have resulted in environmental impacts different than previously reported or whether those changes are expected to produce impacts different than previously reported.

As opposed to the program change analysis where individual projects were found not to be covered by the 1995 EIS, the 1995 EIS covered each environmental discipline by evaluating potential environmental impacts of activities on the INEEL. The exception is the new field of long-term stewardship which is included in this analysis. This change analysis was done to determine whether the specific disciplines had experienced changes in models, assumptions, or data that would warrant additional analysis.

8.2 Methodology

The first step in this analysis is a review of the scope of each environmental discipline as covered by the 1995 EIS. The second is a review of the specific changes that have taken place in that environmental discipline. Areas of change may have included review methodology, assumptions, analytical methods, data adequacy, accident scenarios, accident probabilities, monitoring data, measurements, cumulative impacts, changes in the regulatory environment, and other NEPA analyses that have been completed. The third step is a summary of the major changes and an evaluation of whether additional analysis is required.

Existing analytical data was used where it was available. No new data collection activities were undertaken as a part of this project. The recommendations for additional analysis are based on the professional judgement of the subject matter expert. Each environmental discipline evaluation was subjected to review by the team of subject matter experts, program representatives, NEPA analysts, and project personnel to ensure that each evaluation is thorough and consistent not only between environmental disciplines but also with the program change analysis.

Appendix 8-2 contains the procedure for conducting the environmental discipline evaluations.

8.3 Interaction Between the Program Change Analysis and the Environmental Discipline Change Analysis

As described in Section 6, a tool was developed to compare the programmatic changes with the environmental discipline changes. The first draft of the environmental change evaluations were done independent of this tool. This allowed an independent first draft to be formulated based on the subject matter experts' knowledge of their respective disciplines. Appendix 6-3 was then used as a validation tool for the details of the analysis.

8.4 Results of the Environmental Discipline Change Analysis

A summary of the results of the individual environmental discipline change analysis is given below. The specific environmental discipline change analysis documents are given in Appendix 8-1.

8.4.1 Adverse Environmental Effects Which Cannot Be Avoided. Of the projects analyzed in the 1995 EIS, some are no longer operating and of the planned projects some have not occurred. In general, adverse environmental effects that cannot be avoided are less than projected in the 1995 EIS. However, additional analysis is still required for both cultural resources and ecology to understand these impacts through completion of the Wildland Fire EA.

The analysis in the 1995 EIS was adequate for DOE decisions announced in the ROD. Future DOE decisions on major federal actions on the INEEL, or decisions deferred in the ROD, will require additional analysis for this discipline.

8.4.2 Aesthetic and Scenic Resources. A qualitative analysis was performed to determine if there were any changes affecting aesthetic and scenic resources. Changes in the land status around the INEEL and construction and demolition activities since 1995 were reviewed to determine changes to the visual quality of the INEEL. There are no air quality or visibility issues that are changing the character of the landscape.

The analysis in the 1995 EIS provides a bounding analysis for the environmental impacts in this discipline. Additional analysis for this discipline is not required.

8.4.3 Air Resources. The maximum emissions from radiological sources are bounded by the analysis in the 1995 EIS. For air pollutants, the maximum emission scenario for cumulative emissions from baseline and preferred alternative sources remains bounding for most pollutants, as there are fewer sources operating today. There are four pollutants that exceeded the baseline established in the 1995 EIS. A review of the health effects of these pollutants show that they are well below established emissions standards. Because it can be readily shown that there are no adverse health effects associated with these pollutants, additional analysis is not required for these pollutants.

The existing analysis does not show any adverse impacts from air emissions at 50 km. It is not anticipated that there will be any adverse impacts from air emissions at 200 km. However, due to stakeholder concerns, analysis in the HLW & FD EIS has been completed out to 200 km for some sectors. The methodology has changed such that now regional impacts can be considered using new models. Limited use of new models (CALPUFF in a screening mode) in the HLW & FD EIS and the CPP-606 Prevention of Significant Deterioration permit provide some mitigative influence on the changes in the discipline. Additional analyses using the latest emissions data and a full compliment of meteorological data are warranted to address stakeholder concerns and to assist DOE in identifying the need for and location of additional regional monitors.

The analysis in the 1995 EIS was adequate for DOE decisions announced in the ROD. Future DOE decisions on major federal actions on the INEEL, or decisions deferred in the ROD, will require additional analysis for this discipline. Additional analysis is recommended to address stakeholder concerns regarding air quality beyond 50 km.

8.4.4 Cultural Resources. Impacts to cultural resources resulting from actions analyzed in the 1995 EIS have been less than expected because there have been fewer acres of land disturbed. However, the 1995 EIS did not anticipate or address the effects of wildfires on cultural resources. Impacts related to wildfires are addressed in the Idaho HLW & FD EIS and are being addressed in more detail in the Wildland Fire Environmental Assessment.

The analysis in the 1995 EIS was adequate for DOE decisions announced in the ROD. Future DOE decisions on major federal actions on the INEEL, or decisions deferred in the ROD, will require additional analysis for this discipline. The Wildland Fire EA being prepared will address the outstanding cultural impacts. No analysis beyond that being performed by the Wildland Fire EA is required.

8.4.5 Cumulative Impacts and Impacts from Connected or Similar Actions. There has been a net reduction in risk potential and contributing additive sources and therefore a reduction in cumulative environmental impact risks from INEEL operations since the 1995 EIS was issued. The 1995 EIS adequately discloses and bounds operational cumulative impacts from all sources except for cumulative risk from flooding which may need to be updated based on a final flood plain determination. Long-term groundwater cumulative impacts from all sources are still under development.

The analysis in the 1995 EIS was adequate for DOE decisions announced in the ROD. Future DOE decisions on major federal actions on the INEEL, or decisions deferred in the ROD, will require additional analysis for this discipline.

8.4.6 Ecology. The actions and alternatives analyzed in the 1995 EIS that have been implemented have had little or no impact on ecological resources. Also, it is expected that those actions and alternatives analyzed in the EIS, that are yet to be implemented, would have minimal impact on site ecology. The impacts of fire, fire suppression, and threat of permanent habitat conversion caused by non-native invasive plant species are the main sources of ecological impacts on the INEEL. No additional analysis with regard to planned DOE actions is required. The Wildland Fire EA under preparation is required to understand impacts on the Sagebrush Steppe ecosystem on the INEEL of fire, pre-fire suppression, vegetation management, and restoration actions.

The analysis in the 1995 EIS was adequate for DOE decisions announced in the ROD. Future DOE decisions on major federal actions on the INEEL, or decisions deferred in the ROD, will require additional analysis for this discipline. The Wildland Fire EA being prepared will address the outstanding ecological impacts. No analysis beyond that being performed by the Wildland Fire EA is required.

8.4.7 Environmental Justice. A qualitative analysis was performed to determine if there were any changes in the environmental justice discipline. The analysis reviewed the current INEEL activities and compared those to activities analyzed in the 1995 EIS. The methodology used in the 1995 EIS analysis is consistent with the Council on Environmental Quality guidance issued in 1997. That guidance is still in effect and DOE-HQ has not issued any final guidance that has changed requirements or imposes additional requirements. The major assumption of having Argonne National Laboratory-West as the epicenter for the region of impact is reasonable and still valid for a site-wide analysis. The conditions, data, and methodology used for analysis in the 1995 EIS are still valid and consistent with the requirements to evaluate and mitigate, if necessary, disproportional high and adverse impacts to minority and low-income populations.

The analysis in the 1995 EIS provides a bounding analysis for the environmental impacts in this discipline. Additional analysis for this discipline is not required.

8.4.8 Facility Accidents. The existing analysis is technically adequate. However, each of the five major NEPA analyses (1995 EIS, HLW & FD EIS, AMWTP EIS, Nuclear Infrastructure PEIS, S-B SNF EIS) of this discipline used slightly different input assumptions, models, and codes and as a result arrives at what could appear to be contradictory results. It is difficult to compare impacts across the site because the analysis results are reported in different formats, different receptor locations, and different units. Standardized facility accident analyses utilizing a common set of assumptions, input parameters, codes, and formats would greatly assist the public and DOE management to compare the bounding impacts for facility accidents across the entire site. The existing analysis has not been shown to be inadequate but the results are reported in ways that are inconsistent.

The 1995 EIS showed bounding accident impacts from a Hot Fuel Examination Facility fuel handling accident of 5.0 rem to the maximally exposed offsite individual (MEI) and an ANL-W chlorine release with a MEI exposure of 35% of the Emergency Response Planning Guidelines (ERPG)-3 guidelines. This compares to the HLW & FD EIS bounding accidents of a seismically induced failure of degraded bin sets up to 9500 years into the future resulting in 83 rem to the

MEI and a spill of 15,000 pounds per minute of liquid ammonia which would result in greater than ERPG-2 concentrations at 3600 meters. These new impacts (HLW & FD EIS) now present the bounding impacts for INEEL operations. These changes do not warrant additional accident analysis.

Because of revised accident analysis, the environmental impacts described in the 1995 EIS are not bounding for the INEEL, but the bounding impacts are described in the HLW & FD EIS. Additional analysis for this discipline is not required.

8.4.9 Geology. There are no major environmental impacts related to the 1995 EIS geology characterization. Subsequent revisions, finalizations and challenges to volcanic and seismic hazards characterization documents and their conclusions indicate that the initial assessments of these hazards in the 1995 EIS are robust and bounding analyses.

The analysis in the 1995 EIS provides a bounding analysis for the environmental impacts in this discipline. Additional analysis for this discipline is not required.

8.4.10 Health And Safety. The INEEL conditions, data, and methodology used in the 1995 EIS remain valid with the exception of the four air pollutants discussed below. The type and scope of work performed at the INEEL has not changed significantly during the period 1995 – 2000. Changes in the safety programs at the INEEL have improved operational safety in many respects. Adoption of the Radiation Protection, Quality Assurance, and Nuclear Safety Regulations has improved the overall conduct of operations and safety at the INEEL. Implementation of the Integrated Safety Management System (ISMS) at the INEEL ensures that operations performed at the INEEL have safety and health requirements integrated with all INEEL work activities.

While emissions of hazardous air pollutants were greater than estimated for four pollutants, the resulting maximum concentrations for those pollutants are still below any regulatory threshold requiring additional controls. As a result there are no adverse health impacts to the public from these pollutants.

The analysis for the RWMC shows no adverse health impacts to the public from buried wastes. However, a cumulative analysis of all of the sources of radioactive wastes left in the ground at the INEEL over the long term needs to be performed (in accordance with DOE O 435.1) in order to fully understand the potential ground water related health impacts to the public.

The analysis in the 1995 EIS was adequate for DOE decisions announced in the ROD. Future DOE decisions on major federal actions on the INEEL, or decisions deferred in the ROD, will require additional analysis for this discipline.

8.4.11 INEEL Services. In almost every category, the usage rate for these resources has gone down. Where they have not, the increase has been more than offset by the identified decreases in resource usage.

The analysis in the 1995 EIS provides a bounding analysis for the environmental impacts in this discipline. Additional analysis for this discipline is not required.

8.4.12 Irreversible And Irretrievable Commitments Of Resources. Of the projects analyzed in the 1995 EIS some are no longer operating and, of the planned projects, some have not been

implemented. As a result irreversible and irretrievable commitments of resources have in general been less than projected in the 1995 EIS.

The analysis in the 1995 EIS provides a bounding analysis for the environmental impacts in this discipline. Additional analysis for this discipline is not required.

8.4.13 Land Use. A number of changes in activities at the INEEL were noted, however they do not differ substantially from planned uses. There have been changes in land management policies and practices but this has not changed the overall land use.

The 1995 EIS provides a bounding analysis for the environmental impacts in this discipline. Additional analysis for this discipline is not required.

8.4.14 Mitigation. The Mitigation analysis is adequate for the scope of activities identified in the 1995 EIS. The addition of other actions to this scope will require additional review to ensure Mitigation actions are not required.

The 1995 EIS provides a bounding analysis for the environmental impacts in this discipline. Additional analysis for this discipline is not required.

8.4.15 Noise. The primary source of noise from INEEL operations is from transportation. There have been a number of decreases in transportation activities in the last five years including total number of INEEL workers, decrease in the number of bus routes, elimination of helicopters, and use of a four day work week. The net result has been a reduction in noise levels.

The 1995 EIS provides a bounding analysis for the environmental impacts of noise. Additional analysis for this discipline is not required.

8.4.16 Regulatory Framework for Environmental Restoration and Waste Management.

The regulatory analysis performed for the 1995 EIS was acceptable for the time in which it was performed. However, the approach taken was simply a recitation of the most applicable regulations and a general statement of the intent of the regulation. The analysis that needs to be completed is to provide a complete list of all applicable regulations with analysis of how those regulations impact human health and the environment. In every case reviewed, changes in regulations between 1995 and 2000 were to make the regulations more restrictive, thus reducing environmental impacts. The HLW & FD EIS provides a good analysis of most regulations applicable to the INEEL and provides the appropriate level of analysis. The 1995 EIS does not provide a bounding analysis for the regulatory environment, however, the HLW & FD EIS provides the majority of the required analysis. Because the regulatory changes have resulted in reduced environmental impacts, no further analysis is required.

The analysis in the 1995 EIS provides a bounding analysis for the environmental impacts in this discipline. Additional analysis for this discipline is not required.

8.4.17 Relationship Between Short-Term Use of the Environment and the Maintenance and Enhancement of Long Term Productivity. Of the projects analyzed in the 1995 EIS some are no longer operating and of the planned projects some have not occurred. The section on cumulative impacts and Impacts from Connected or Similar Actions provides a summary of the operational changes that have occurred since 1995. As a result short-term impacts have in general been less than projected in the 1995 EIS. In addition, the long-term impacts associated

with land disturbances have also been less. The potential long-term risk to workers, the public and the environment remains extremely low even though this risk may be long-term. The impacts resulting from wildfires on the INEEL since 1995 were not anticipated in the 1995 EIS. However, again no long-term loss of productivity within the ecological environment on the INEEL is anticipated. Wildfires often times result in a long-term increase in productivity within ecological environments. The wildfire impacts to facility operations on the INEEL resulted in no long-term changes.

This SA acknowledges that several flood studies have been conducted on the INEEL but that there is a degree of uncertainty associated with flooding and overland flow. There is also a difference of opinion between the United States Geological Survey and the Bureau of Reclamation that is fully described in the HLW & FD EIS. Again, although the potential exists for short-term impacts, the existing studies show minimal potential impact on long-term productivity.

The analysis in the 1995 EIS provides a bounding analysis for the environmental impacts in this discipline. Additional analysis for this discipline is not required.

8.4.18 Socioeconomics. The 1995 EIS Alternative B projected minimal socioeconomic impacts beyond 1995 since employment levels would be nearly the same as they were in 1995 (8,620 in 1995 and 8,316 Alternative B projected for the year 2000).

The document titled "INEEL Impacts 2000" published by the Department of Energy, Idaho Operations Office, shows total INEEL employment in 2000 was 8,155 people. A comparative analysis between the 3 sets of employment numbers to the current socioeconomic conditions and the continued growth seen in the region of influence and lack of any known direct adverse socioeconomic impacts, supports the 1995 EIS conclusions that minimal socioeconomic impacts have resulted from implementation of the Alternative B decision.

The analysis in the 1995 EIS provides a bounding analysis for the environmental impacts in this discipline. Additional analysis for this discipline is not required.

8.4.19 Traffic and Transportation. For purpose of comparison, the number of shipments (1,255) and vehicles miles traveled (9,813,196) related to the INEEL, during the past five years are well within the bounded number of shipments (17,145) and miles (16,157,200) analyzed in the 1995 EIS.

The analysis in the 1995 EIS provides a bounding analysis for the environmental impacts in this discipline. Additional analysis for this discipline is not required.

8.4.20 Water Resources.

Ground Water: The 1995 EIS addressed existing groundwater plumes from the TRA, INTEC, TAN, and RWMC. It also provided estimates of ground water doses from the ongoing low-level waste disposal activities at the RWMC. The 1995 EIS showed a dose of 0.60 mrem/yr attributable to the LLW disposal facility through the year 2060. It also stated that results of the preliminary risk assessment for buried wastes indicate that contaminants would not reach the INEEL site boundary exceeding Federal primary drinking water standards through 2005. Additional analysis completed since the 1995 EIS confirms that these statements are still valid. The projected groundwater dose from all buried waste at the RWMC is 0.07 mrem/yr through 2120.

The 1995 EIS stated that additional work was required in order to understand ground water impacts from INEEL operations. Since that time, additional analysis has been completed that addresses some of the unknowns but additional work is still required. The RWMC Composite Analysis (CA) has been completed since the 1995 EIS was published along with updates to the RWMC Performance Assessment. These have addressed one of the major groundwater analysis needs: further definition on the balance of the buried waste at the RWMC. The WAG 3 RI/FS has also been completed since the 1995 EIS and provides another major piece of the groundwater analysis such as impacts from spills at the INTEC. (It should be noted during the discussion of groundwater impacts, that there is a great deal of uncertainty in groundwater modeling and impacts. Most models calculate results conservatively because they cannot duplicate actual transport mechanisms through the vadose zone. These transport processes are highly complex especially in an environment like the INEEL where fractured basalt, rift zones, geothermal activity, and sedimentary interbeds all play a part in fate and transport of contaminants. Analysis done to date has consistently used conservative assumptions in performing this analysis.)

Decontamination and decommissioning (D & D) decisions on ultimate disposition of radiologically contaminated facilities have the potential to add significant source term that may increase the long-term dose reflected in the Composite Analysis. From a site-wide cumulative impacts standpoint, the D & D impacts on the long-term ground water dose are uncertain. D & D decisions must take into account cumulative impacts on groundwater dose estimates. The additional analysis that is needed is a site-wide Composite Analysis in accordance with DOE O 435.1. This information will be used to address some of these uncertainties.

While additional work is required beyond 2005 and for D&D decisions, the conclusions of the 1995 EIS (see page 5.8-4 in the 1995 EIS) are adequate to support the ROD. Actual ground water monitoring data shows decreasing contaminants across the INEEL with the exception of inorganic salts (from agricultural sources in the Mud Lake area) and carbon tetrachloride, which is being addressed through CERCLA remediation actions.

The analysis in the 1995 EIS was adequate for DOE decisions announced in the ROD. Future DOE decisions on major federal actions on the INEEL, or decisions deferred in the ROD, will require additional analysis for this discipline.

Surface Water: Flood hazard characterization in the 1995 EIS was limited to the Mackay dam failure scenario, which is considered to be a bounding accident. Structural failures were assumed to be insignificant due to the shallow depth and low flow velocity at the INEEL approximately 45 miles downstream of Mackay reservoir. Because the effects of the Mackay dam failure scenario were assumed to be small, the effects of the 100 and 500-year floods were not significant on projects analyzed in the 1995 EIS.

Additional flood risk analysis will be required. The flood risk must be assessed consistent with flood hazard analysis prescribed in DOE standards. Specifically the 100-year and 500-year flood plains must be refined for the INEEL. DOE-ID will refine the Flood Plain documentation per 10 CFR 1022. The review determined that the flood plain analysis in 1995 was adequate for safe operation of INEEL facilities.

The analysis in the 1995 EIS was adequate for DOE decisions announced in the ROD. Future DOE decisions on major federal actions on the INEEL, or decisions deferred in the ROD, will require additional analysis for this discipline.

8.5 Conclusions

In making the determination that additional analysis is required, the baseline (Alternative B) against which this analysis was completed must be considered. Since Alternative D was the maximum impact case, it is important to understand whether the additional analysis was unanalyzed (not in the 1995 EIS) or not a part of the ROD (a part of one of the other alternatives but not a part of Alternative B.) In this case, the additional analysis that is required is not included in any of the other alternatives in the 1995 EIS. Hence the additional analysis identified above is required.

9.0 SUMMARY

9.1 Program Change Analysis Summary

This section summarizes the results of the Program Change Analysis.

Decontamination and Decommissioning (D&D)

The D&D program has not accomplished all of the D&D activities previously projected because of reduced funding availability. The buildings that have undergone the D&D process have not had environmental impacts greater than those analyzed. The only impact not completely analyzed is the affect on site groundwater of future D&D decisions to leave radiological contamination in place vs. disposal in a LLW disposal facility. D & D decisions made since the 1995 EIS and which left radioactive source term in the ground received additional NEPA analysis. Further analysis may be required to ensure future D&D decisions are integrated with a sitewide groundwater analysis to understand the impacts of project specific decisions.

Environmental Restoration (ER)

With CERCLA actions, the environmental impacts are analyzed during the CERCLA process, including a public involvement process. The NEPA values that are not routinely addressed through CERCLA are addressed in the 1995 EIS. The changes that have taken place in the ER program over the last five years have resulted in reduced environmental impacts.

All impacts described in the 1995 EIS are bounding from a NEPA perspective. The purpose of this supplement analysis was not to analyze the adequacy of the CERCLA decisions but to ensure that a multidisciplinary review of proposed sitewide actions was conducted.

High-Level Waste

The high-level waste program is considering significant changes. As a result, an EIS has been prepared to analyze these proposed changes. The EIS describes environmental impacts that are beyond those impacts described in the 1995 EIS. No further NEPA analysis is required for this program because those HLW related impacts beyond those described in the 1995 EIS are addressed in the HLW & FD EIS.

Infrastructure

Projects in the 1995 EIS not specifically included in the ER, WM, HLW, or SNF sections are addressed in this analysis. The 1995 EIS covers the infrastructure projects listed and describes

the balance of the infrastructure program. A number of Line Item Construction Projects have taken place in the last five years but these are like-for-like replacements and are still bounded by the impacts described in the 1995 EIS. No further NEPA analysis is required for the portions of the Infrastructure program covered by the 1995 EIS.

Spent Nuclear Fuel (SNF)

All INEEL projects related to the SNF program have been analyzed. Changes to the program in the last five years have resulted in reduced environmental impacts due to fewer SNF shipments. Privatization activities with the Independent Spent Fuel Storage Installation represent changes in the program but not in environmental impacts.

Waste Management (WM)

All aspects of the WM program have been analyzed. Changes to the program in the last five years have resulted in reduced environmental impacts (specific examples include the shutdown of WERF and the decision to not build a greater than class-C storage facility). Some of the environmental impacts for the WM program are analyzed in the AMWTP EIS. No impacts were analyzed in the AMWTP EIS that would exceed the impacts described in the 1995 EIS.

9.2 Summary of Alternatives Analysis

While the 1995 EIS used a cutoff date of 2005 for the analysis, this review has determined that the 1995 EIS provides a bounding analysis for most projects beyond 2005. This issue could be reexamined when the next Supplement Analysis is conducted to ensure the continued validity of this determination. Any changes in programmatic actions will require additional analysis to determine whether the proposed changes are within or outside of the scope of the 1995 EIS.

9.3 Environmental Discipline Change Analysis Summary

This section summarizes the results of the Environmental Discipline Change Analysis. In the following areas where additional analysis is being recommended, it has been determined that the analysis in the 1995 EIS was adequate for DOE decisions announced in the ROD. Future DOE decisions on major federal actions on the INEEL, or decisions deferred in the ROD, will require additional analysis for projects affecting these disciplines.

Environmental Disciplines

The results of the environmental discipline change analysis indicate that the following additional analyses need to be completed: Air Resources analysis impact zone needs to be extended from the 50 km in the 1995 EIS to 200 km to address stakeholder concerns, the Big Lost River flood plain determination on the INEEL should be refined, and the Wildfire Environmental Assessment should be completed. From a regulatory perspective a site-wide composite analysis in accordance with DOE O 435.1 should be completed. While additional analysis is being recommended, the analysis in the 1995 EIS was adequate for DOE decisions announced in the ROD. Future DOE decisions on major federal actions on the INEEL, or decisions deferred in the ROD, will require additional analysis for these disciplines.

The following summarizes the findings from the Environmental Discipline Change Analysis.

Adverse Environmental Effects Which Cannot Be Avoided

In general, adverse environmental effects that cannot be avoided are less than projected in the 1995 EIS. However, additional analysis is still required for both cultural resources and ecology to understand these impacts through completion of the Wildland Fire EA.

Aesthetic and Scenic Resources

Existing analysis is adequate because there are no air quality or visibility issues that are changing the character of the landscape.

Air Resources

Summary of Table 8-1.3.2 and Table 8-1.10.2 Onsite Emissions Impacts of Toxic Air Pollutants

	Amount Analyzed ^a (kg per year)	Total INEEL Emissions (kg per year)	Revised Concentrations ($\mu\text{g}/\text{m}^3$)	Percentage of Standard	Standard ^b ($\mu\text{g}/\text{m}^3$)
Beryllium	0.18	0.59	9.2E-04	< 1	$2 \times 10^0 \mu\text{g}/\text{m}^3$
Carbon tetrachloride	268	2,468	2.3E+03	18	$1.3 \times 10^4 \mu\text{g}/\text{m}^3$
Chloroform	11.5	51.68	4.9E+01	< 1	$9.8 \times 10^3 \mu\text{g}/\text{m}^3$
Hydrochloric acid	17500	21,950	1.8E+02	3	$7 \times 10^3 \mu\text{g}/\text{m}^3$

- a. This is the amount analyzed in the 1995 EIS for alternative B.
b. Limits are 8-hour time-weighted averages established by either the American Conference of Government Industrial Hygienists or the Occupational Safety and Health Administration; the lower of the two is used.

While actual emissions of these pollutants were shown to have exceeded the analyzed amount in the 1995 EIS, health and safety impacts of this level of emissions were shown to be negligible. None of these emissions exceeded occupational exposure limits. Total INEEL emissions are within regulatory requirements. However, no analysis of air impacts has been completed beyond 50 km, it is recommended that analysis be completed for some sectors to 200 km based on stakeholder requests and National Park Service requirements.

Cultural Resources

Existing analysis is adequate as long as the INEEL Cultural Resources Management Plan is implemented and assuming completion of the Wildland Fire EA.

Cumulative Impacts and Impacts from Connected or Similar Actions

Cumulative Impact analysis is adequate except for flooding which may need to be updated using data based on a final flood plain determination.

Ecology

Existing analysis is adequate assuming completion of the Wildland Fire EA and no additional impacts to ecological resources from habitat loss.

Environmental Justice

Existing analysis is adequate because there has been no significant spatial redistribution of minority and low income population within the region of influence.

Facility Accidents

Technically adequate, cannot compare results of different analysis, there is a new bounding accident for the INEEL in HLW & FD EIS.

Impacts to the maximally exposed individual of bounding accidents on the INEEL.

	1995 EIS	HLW & FD EIS	LCF
Hot Fuel Examination Facility fuel handling accident	5.0 rem		1
Seismically induced failure of degraded bin sets after 2095		83 rem	270
Failure of ammonia tank connections		Greater than ERPG-2 at 3,600 m	

Geology

Existing analysis is adequate to support facility design and safety. The general geology supports DOE flood hazard requirements.

Health and Safety

Health effects of increased air pollutants were shown to be negligible. Health effects from ground water analysis are shown to still be negligible.

Summary of Table 8-1.10.5 "Offsite Emissions Impacts of Toxic Air Pollutants" for constituents that exceeded previously analyzed emission levels.

Air Pollutant ^a	1995 EIS Concentrations (ng/m ³)		Revised Concentrations (ng/m ³)		Standard (ng/m ³) ^b	Impact as percent of standard	
	Site Boundary	Public Roads	Site Boundary	Public Roads		Site Boundary	Public Roads
Beryllium	4.0E-04	1.0E-03	1.3E-03	3.3E-03	4.2E+00	<1	<1
Carbon tetrachloride	2.4E+00	2.2E+00	2.2E+01	2.0E+01	6.7E+01	33	30
Chloroform	8.9E-02	8.3E-02	2.6E-01	2.4E-01	4.3E+01	<1	<1
Hydrochloric acid ^c				1.7E-02 mg/m ³	3.8E-01 ^d mg/m ³		4.5

a The four air pollutants shown were the only pollutants that exceeded the estimated air emissions in the 1995 EIS. The other pollutant emissions were within the previously analyzed impacts. A complete list of pollutants and emissions is given in App. 8-1 section 10.

- b. As in the 1995 EIS, these are the Acceptable ambient concentration increments (AAC) listed in State of Idaho Rules for the Control of Air Pollution in Idaho. These standards apply to incremental (not cumulative) impacts of facilities constructed or modified after May 1, 1994.
- c. The ratio was not used for this pollutant. The revised concentrations were obtained from "Operable Unit 7-08 Air Dispersion Modeling and Health Effects from Thermal and Catalytic Oxidation Unit Emissions at the Radioactive Waste Management Complex", EDF-1901, June 25, 2001. Only the portion of the HCl emissions that is greater than in the 1995 EIS are reflected here. Since the locations of the two sources are different, there is not a concern with cumulative effects between the two sources.
- d. Acceptable Ambient Concentration (AAC) for hydrochloric acid (24-hour average) (IDAPA 58.01.01)

Summary of Table 8-1.10.4 Radioactive Dose to the Public

Years	Actual Dose to Maximally Exposed Individual (mrem)	1995 EIS Estimated Dose to Maximally Exposed Individual (mrem) ^e	Actual Maximum Potential Population Dose (person-rem)	1995 EIS Estimated Maximum Potential Population Dose (person-rem) ^f
1995 ^a	0.018	0.63	0.08	2.9
1996 ^b	0.03	0.63	0.2	2.9
1997 ^c	0.03	0.63	0.2	2.9
1998 ^d	0.007	0.63	0.08	2.9

INEEL Services

Existing analysis is adequate based on the reported resource usage summary.

Summary of Table 8-1.11.1 Usage of Resources

1995 EIS Annual Usage	Most Recent Data
<u>Water usage –</u> - INEEL site: 1.78 billion gal - I.F. Facilities: 79 million gal	<u>Water Usage 2000 –</u> INEEL site: 1.2 billion gallons I.F. Facilities: 71 million gallons
<u>Electricity usage –</u> INEEL site: 303,521 megawatt hrs I.F. Facilities: 31,500 megawatt hrs	<u>Electricity usage 2000 –</u> INEEL site: 156,639 megawatt hrs I.F. Facilities: 27,683 megawatt hrs
<u>Fuel consumption –</u> Heating Oil usage 4.25M gal; Diesel Fuel usage 1.8M gal; Propane gas use 863,000 gal; Gasoline usage 557,000 gal; Jet Fuel usage 73,100 gal; Kerosene usage 33,800 gal; Coal usage - 9000 tons (Natural gas and LNG/CNG was not addressed in the 1995 EIS)	<u>Calendar Year 2000 Actuals</u> Heating Oil use 2.3 M gal Diesel Fuel use 652,800 gal Propane usage 63,121 gal Gasoline usage 381,347 gal Jet Fuel usage 0 gal * Kerosene usage 45,006 gal Coal usage 0 tons LNG/CNG usage 4.6Mbtu Natural Gas usage 16,816 Mcf
<u>Wastewater treatment and discharge systems.</u> Average annual wastewater disposal INEEL site: 144 million gal I.F. facilities: 79 million gal	<u>Wastewater disposal 2000 –</u> INEEL site: 1.16 billion gal** I.F. facilities: 70 million gal

* This change is a result of discontinuing helicopter service on the INEEL.

** The table used in the 1995 EIS for the actual waste water disposal data for the INEEL site for 1995 (142 million gallons) appears to be in error. Based on 1996 data, (1.18 billion gallon disposed), an overall decrease in wastewater disposal is evident over the period of analysis. This water disposal is in accordance with regulatory requirements and no adverse environmental impacts have been observed as a result of this disposal.

Irreversible and Irretrievable Commitments of Resources

Existing analysis is adequate because irreversible and irretrievable commitments of resources have in general been less than projected in the 1995 EIS.

Land Use

Existing analysis is adequate because the changes in land use have received appropriate analysis.

Acres of undisturbed land projected to be disturbed: 537 acres (217 hectares)

Approximate acres of undisturbed land actually disturbed including acreage to be disturbed that was identified in a decision document but not yet implemented:

INTEC Percolation Ponds	= 20
ICDF	= 40
SSST	= 20
Expanded Landfill	= 225
CFA Medical and Fire Station	= 7
Gravel Pits Total	= 85
*Silt/Clay Sources	= 290
TRA Sewage Lagoons	= 18
Total	= 705

*An Environmental Assessment for New Silt/Clay Source Development and Use at the INEEL was completed and identified 290 additional acres needed for Silt/Clay extraction.

Mitigation

Existing analysis is adequate. None of the proposed mitigation measures described in the 1995 EIS were required to be implemented.

Noise

Existing analysis is adequate because the number of primary noise sources (cars/buses) has decreased.

Regulatory Requirements

Existing analysis is adequate. Regulatory changes are more restrictive than in 1995

Relationship Between Short Term Use of the Environment and the Maintenance and Enhancement of Long Term Productivity

Existing analysis is adequate because projects implement from the 1995 EIS have had short term environmental impacts that have been offset by long term enhancement of environmental productivity.

Socioeconomics

Existing analysis is adequate because site service and employment levels are at or below the analysis conducted in the 1995 EIS.

Table 8-1.18.2 Projected Employment

	1995 Actuals	2000 (projected in 1995 EIS)	2000 (Actuals based on "INEEL Impacts 2000")
Direct Employment	8,620	8,316	8,155

Traffic and Transportation

Existing analysis is adequate because the total number of shipments to the INEEL is over 5 times less than was analyzed in the 1995 EIS.

Total radioactive shipments estimated in the 1995 EIS (10 years)	17, 145
Total actual radioactive shipments through FY 2000 (5 years)	1,255

Water Resources

Ground Water

The 1995 EIS ground water analyses was adequate to support all decisions made in the ROD. As new information becomes available from completion of the site-wide Composite Analysis in accordance with DOE O 435.1 on impacts to groundwater, DOE-ID will incorporate the ground water analysis into future decisions.

The ground water monitoring results comparing data from the 1995 EIS and maximum ground water monitoring results from 1995 - 1999 is shown in Table 8-1.20.1. The table shows decreased contaminant levels for most contaminants. The contaminants that show increases are for inorganic salts around the Mud Lake area (not attributable to INEEL actions) and for carbon tetrachloride. Carbon tetrachloride is being addressed through the CERCLA program which is the procedural equivalent of NEPA.

The 1995 EIS showed a dose of 0.60 mrem/yr attributable to the LLW disposal facility through the year 2060. It also stated that results of the preliminary risk assessment indicate that contaminants would not reach the INEEL site boundary exceeding Federal primary drinking water standards through 2005. Additional analysis completed since the 1995 EIS (the HLW & FD EIS, WAG 3 RI/FS, and RWMC PA/CA) confirms the adequacy of the 1995 EIS.

Surface Water

DOE-ID will refine the Flood Plain documentation per 10 CFR 1022. The review determined that the flood plain analysis in 1995 was adequate for safe operation of INEEL facilities.

9.4 Change Analysis Conclusions

The programs and projects addressed in the 1995 EIS have NEPA documentation that addresses current and planned actions. A number of facilities and operations rely on NEPA documentation in addition to the 1995 EIS to provide an adequate representation of the environmental impacts of these actions. The only area for further analysis identified for projects in the 1995 EIS is in the D&D program. As stated in the ROD for the 1995 EIS, additional analysis will be required before making decisions for the D&D of these facilities. The Supplement Analysis did not evaluate the adequacy of NEPA documentation for any of the national programs that are managed through DOE-ID or for the Grand Junction Field Office.

While the 1995 EIS used a cutoff date of 2005 for the analysis, this review determined that the 1995 EIS provides a bounding analysis for most projects beyond 2005. Any changes in programmatic actions will require additional analysis.

The results of the environmental discipline change analysis indicate that the following additional analyses needs to be completed: Air Resources analysis impact zone needs should be extended from the 50 km in the 1995 EIS to 200 km to address stakeholder concerns, the Big Lost River flood plain on the INEEL needs to be refined, and the Wildfire Environmental Assessment must be completed. While additional analysis is being recommended, the analysis in the 1995 EIS was adequate for DOE decisions announced in the ROD. Future DOE decisions on major federal actions on the INEEL, or decisions deferred in the ROD, will require additional analysis for these disciplines.

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This list presents the individuals who contributed to the technical content of this Supplement Analysis. Some of the individuals listed below prepared specific sections in accordance with their technical qualifications. Other technical experts provided input to those sections through in-depth review and data verification. Still others provided overall technical or management reviews for their respective organizations.

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